

#3

**Declaration for Patent Application**

Docket Number: 1875.2200001

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled: Thermally and Electrically Enhanced Ball Grid Array Packaging

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on November 30, 2001;  
as United States Application Number or PCT International Application Number 09/997,272; and  
was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendments referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information that became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or (f), or § 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or § 365(a) of any PCT international application, which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Claimed

_____ (Application No.)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
_____ (Application No.)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/> Yes <input type="checkbox"/> No

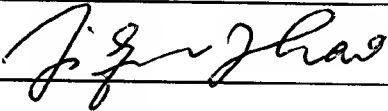

Send Correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005-3934

Direct Telephone Calls to:


(202) 371-2600

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor	Sam Ziqun Zhao	
Signature of sole or first inventor		Date 1/30/02
Residence	Irvine, CA	
Citizenship	U.S.	
Mailing Address	25 Carnation, Irvine, CA 92618	
Full name of second inventor	Reaz-ur Rahman Khan	
Signature of second inventor		Date 1/30/02
Residence	Rancho Santa Margarita, CA	
Citizenship	U.S.	
Mailing Address	36 Via Anadeja, Rancho Santa Margarita, CA 92688	
Full name of third inventor	Edward Law	
Signature of third inventor		Date
Residence	Tracy, CA	
Citizenship	U.S.	
Mailing Address	925 Sunnyside Lane, Tracy, CA 95376	

Appl. No. 09/997,272  
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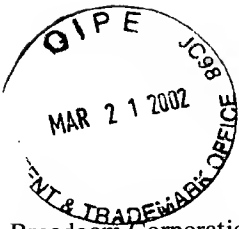
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor	Sam Ziqun Zhao	
Signature of sole or first inventor		Date
Residence	Irvine, CA	
Citizenship	U.S.	
Mailing Address	25 Carnation, Irvine, CA 92618	
Full name of second inventor	Reez-ur Rahman Khan	
Signature of second inventor		Date
Residence	Rancho Santa Margarita, CA	
Citizenship	U.S.	
Mailing Address	36 Via Anadeja, Rancho Santa Margarita, CA 92688	
Full name of third inventor	Edward Law	
Signature of third inventor		3/4/02 : Date
Residence	Tracy, CA	
Citizenship	U.S.	
Mailing Address	925 Sunnyside Lane, Tracy, CA 95376	

Appl. No. 09/997,272  
Docket No. 1875.2200001

Full name of fourth inventor	Mark Papageorge
Signature of fourth inventor	<i>Mark Papageorge</i> Date 2-15-02
Residence	Pleasanton, CA
Citizenship	U.S.
Mailing Address	3289 Roylton Court, Pleasanton, CA 94588

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SKOP Rev. 5/16/01 gte



## POWER OF ATTORNEY FROM ASSIGNEE

Broadcom Corporation, a corporation of California, having a principal place of business at 16215 Alton Parkway Irvine, CA 92618-3616, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on 1) 1/30/02, 2) 1/30/02, 3) 3/4/02, and 4) 2/15/02 of an invention known as Thermally and Electrically Enhanced Ball Grid Array Packaging (Attorney Docket No. 1875.2200001), which is disclosed and claimed in patent application of the same title by the inventors 1) Sam Ziqun Zhao, 2) Reza-ur Rahman Khan, 3) Edward Law, and 4) Marc Papageorge (said application filed on November 30, 2001, at the U.S. Patent and Trademark Office, having Application Number 09/997,272)

RES  
3/21/02

The Assignee hereby appoint James D. Bennett, Registration No. 37,550, and David J. Rosmann, Registration No. 43,059, of Broadcom Corporation, and the U.S. attorneys associated with **CUSTOMER NUMBER 28393** to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith, such attorneys currently being: Robert Greene Sterne, Esq., Reg. No. 28,912; Edward J. Kessler, Esq., Reg. No. 25,688; Jorge A. Goldstein, Esq., Reg. No. 29,021; David K.S. Cornwell, Esq., Reg. No. 31,944; Robert W. Esmond, Esq., Reg. No. 32,893; Tracy-Gene G. Durkin, Esq., Reg. No. 32,831; Michele A. Cimbala, Esq., Reg. No. 33,851; Michael B. Ray, Esq., Reg. No. 33,997; Robert E. Sokohl, Esq., Reg. No. 36,013; Eric K. Steffe, Esq., Reg. No. 36,688; Michael Q. Lee, Esq., Reg. No. 35,239; Steven R. Ludwig, Esq., Reg. No. 36,203; John M. Covert, Esq., Reg. No. 38,759; Linda E. Alcorn, Esq., Reg. No. 39,588; Lawrence B. Bugaisky, Esq., Reg. No. 35,086; Donald J. Featherstone, Esq., Reg. No. 33,876; and Robert C. Millonig, Esq., Reg. No. 34,395. The Assignee hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send correspondence to:

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005-3934  
U.S.A.

Direct phone calls to 202-371-2600.

FOR: Broadcom Corporation  
SIGNATURE: [Signature]  
BY: William J. Ruehle  
TITLE: Vice President and Chief Financial Officer  
DATE: March 18, 2002



BPP 2142

Appl. No. 09/997,272  
Docket No. 1875.2200001**Certificate Under 37 C.F.R. § 3.73(b)**Applicant/Patent Owner: Zhao et al.Application No./Patent No.: 09/997,272 Filed: November 30, 2001Entitled: Thermally and Electrically Enhanced Ball Grid Array PackagingBroadcom Corporation, a corporation  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest, or
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either:

- A. ☒ An Assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title from the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.

**[NOTE:]** A separate copy (*i.e.*, the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: march 18, 2002Name: William J. Ruehle  
Title: Vice President and Chief Financial OfficerSignature: [Signature]

DO NOT FORWARD  
TO ASSIGNMENT BRANCH  
NOT FOR RECORDATION

## ASSIGNMENT

In consideration of the sum of One Dollar (\$1.00) or equivalent and other good and valuable consideration paid to each of the undersigned inventors: 1) Sam Ziqun Zhao 2) Reza-ur Rahman Khan 3) Edward Law and 4) Marc Papageorge, the undersigned inventors hereby sell and assign to Broadcom Corporation (the Assignee) his/her entire right, title and interest, including the right to sue for past infringement and to collect for all past, present and future damages:

check applicable box(es)

- ☒ for the United States of America (as defined in 35 U.S.C. § 100),  
☒ and throughout the world,

(a) in the invention known as Thermally and Electrically Enhanced Ball Grid Array Packaging for which application for patent in the United States of America has been executed by the undersigned on 1) 1/30/02, 2) 1/30/02, 3) 3/4/02, and 4) 2/15/02 (also known as United States Application No. 09/997,272, filed November 30, 2001), in any and all applications thereon, in any and all Letters Patents therefor, and

3/20/02

(b) in any and all applications that claim the benefit of the patent application listed above in part (a), including continuing applications, reissues, extensions, renewals and reexaminations of the patent application or Letters Patent therefor listed above in part (a), to the full extent of the term or terms for which Letters Patents issue, and

(c) in any and all inventions described in the patent application listed above in part (a), and in any and all forms of intellectual and industrial property protection derivable from such patent application, and that are derivable from any and all continuing applications, reissues, extensions, renewals and reexaminations of such patent application, including, without limitation, patents, applications, utility models, inventor's certificates, and designs together with the right to file applications therefor; and including the right to claim the same priority rights from any previously filed applications under the International Agreement for the Protection of Industrial Property, or any other international agreement, or the domestic laws of the country in which any such application is filed, as may be applicable;

all such rights, title and interest to be held and enjoyed by the above-named Assignee, its successors, legal representatives and assigns to the same extent as all such rights, title and interest would have been held and enjoyed by the Assignor had this assignment and sale not been made.

The undersigned inventors agree to execute all papers necessary in connection with the applications and any continuing (continuation, divisional, or continuation-in-part), reissue, reexamination or corresponding applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned inventors agree to execute all papers necessary in connection with any interference or patent enforcement action (judicial or otherwise) related to the applications or any continuing (continuation, divisional, or continuation-in-part), reissue or reexamination applications thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference or patent enforcement action.

DO NOT FORWARD  
TO ASSIGNMENT BRANCH  
NOT FOR RECORDATION

Appl. No. 09/997,272  
Docket No. 1875.2200001

FROM

The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant James D. Bennett, Registration No. 37,550, and David No. 43,059, of Broadcom Corporation, and Robert Greene Sterne, Esquire, Edward J. Kessler, Esquire, Registration No. 25,688; Jorge A. Goldstein, T. 29,021; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert W. Registration No. 32,893; Tracy-Gene G. Durkin, Esquire, Registration No. 32,831; J. Roehl, Esquire, Registration No. 33,851; Michael B. Ray, Esquire, Registration No. 36,013; Eric K. Steffe, Esquire, Registration No. 35,239; Steven R. Ludwig, Esquire, Registration No. 35,086; Linda E. Alcorn, Esquire, Registration No. 38,759; Linda E. Featherstone, Esquire, 3,876; and Robert C. Millonig, Esquire, Registration No. 34,395, all of STERNE, EIN & FOX P.L.L.C., 1100 New York Avenue, N.W., Suite 600, Washington, D.C. to insert in this assignment any further identification that may be necessary or to comply with the rules of the United States Patent and Trademark Office for this document.

Esq.  
Beno.  
Michele  
33,997; Ro.  
36,688; Mi  
36,203; Jo  
39,588; J  
Registra  
KESSELE  
20005-  
desira  
recorv

INNESS WHEREOF, executed by the undersigned inventors on the date opposite his/her

Date: 1/30/02 Signature of Inventor: Sam Ziqun Zhao

Date: 1/30/02 Signature of Inventor: Reza-ur Rahman Khan

Date: \_\_\_\_\_ Signature of Inventor: Edward Law

Date: \_\_\_\_\_ Signature of Inventor: Marc Papageorge

DO NOT FORWARD  
TO ASSIGNMENT BRANCH  
NOT FOR RECORDATION



FROM WHITE & CASE LLP

Appl. No. 09/997,272  
Docket No. 1875.2200001

The undersigned inventors hereby represent that he/she has full right to convey the entire interest herein assigned, and that he/she has not executed, and will not execute, any agreement in conflict therewith.

The undersigned inventors hereby grant James D. Bennett, Registration No. 37,550, and David J. Rosmann, Registration No. 43,059, of Broadcom Corporation, and Robert Greene Sterne, Esquire, Registration No. 28,912; Edward J. Kessler, Esquire, Registration No. 25,688; Jorge A. Goldstein, Esquire, Registration No. 29,021; David K.S. Cornwell, Esquire, Registration No. 31,944; Robert W. Hamond, Esquire, Registration No. 32,893; Tracy-Gene G. Durkin, Esquire, Registration No. 32,831; Michele A. Cimbala, Esquire, Registration No. 33,851; Michael B. Ray, Esquire, Registration No. 33,997; Robert E. Sokohl, Esquire, Registration No. 36,013; Eric K. Steffe, Esquire, Registration No. 36,688; Michael Q. Lee, Esquire, Registration No. 35,239; Steven R. Ludwig, Esquire, Registration No. 36,203; John M. Covert, Esquire, Registration No. 38,759; Linda E. Alcorn, Esquire, Registration No. 39,588; Lawrence B. Bugaisky, Esquire, Registration No. 35,086; Donald J. Featherstone, Esquire, Registration No. 33,876; and Robert C. Millonig, Esquire, Registration No. 34,395, all of STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C., 1100 New York Avenue, N.W., Suite 600, Washington, D.C. 20005-3934, power to insert in this assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, executed by the undersigned inventors on the date opposite his/her name.

Date: \_\_\_\_\_ Signature of Inventor: Sam Ziquan Zhao

Date: \_\_\_\_\_ Signature of Inventor: Reza-ur Rahman Khan

Date: 3/4/02 Signature of Inventor: Edward Law

Date: 2-15-02 Signature of Inventor: Marc Papageorge